

**Listing of Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-28 (Canceled.)

29. (Previously presented) An isolated polynucleotide, wherein said polynucleotide comprises a nucleic acid sequence encoding a G protein-coupled receptor comprising the amino acid sequence of SEQ ID NO:16.

30-40. (Canceled.)

41. (Currently amended.) An isolated polynucleotide according to claim 29, wherein the G protein-coupled receptor exhibits expression in thalamus and (a) is associated with a an ~~activity in thalamus related to~~ sensorimotor processing or arousal disorder and/or (b) ~~an activity in thalamus of increasing~~ increases an intracellular level of IP3 ~~by activation~~.

42. (Currently amended) An isolated polynucleotide according to claim ~~[[1]]~~ 29, wherein the nucleic acid sequence is SEQ ID NO:15.

43. (Currently amended) An isolated polynucleotide according to claim 42, wherein the G protein-coupled receptor exhibits expression in thalamus and (a) is associated with a an ~~activity in thalamus related to~~ sensorimotor processing or arousal disorder and/or (b) ~~an activity in thalamus of increasing~~ increases an intracellular level of IP3 ~~by activation~~.

44. (Currently amended.) An isolated polynucleotide, wherein said polynucleotide comprises a nucleic acid sequence encoding an endogenous human G protein-coupled receptor, said

nucleic acid sequence being the sequence obtainable by a process comprising performing polymerase chain reaction (PCR) on a human cDNA sample using a specific primer that consists of the nucleotide sequence set forth in SEQ ID NO:41 and a specific primer that consists of the nucleotide sequence set forth in SEQ ID NO:42, wherein the process is RT-PCR.

45. (Currently amended) An isolated polynucleotide according to claim 44, wherein the G protein-coupled receptor exhibits expression in thalamus and (a) is associated with a ~~an~~ activity in thalamus related to sensorimotor processing or arousal disorder and/or (b) ~~an~~ activity in thalamus of increasing increases an intracellular level of IP3 ~~by activation.~~
46. (Previously presented). A vector comprising a polynucleotide according to any one of claims 29, or 41 to 45.
47. (Previously presented). A vector according to claim 46, wherein said vector is an expression vector.
48. (Previously presented). A host cell comprising an expression vector according to claim 47.
49. (Previously presented). A host cell according to claim 48, wherein the host cell is mammalian.
50. (Previously presented). A mammalian host cell according to claim 49, wherein the mammalian host cell is selected from the group consisting of 293 cell, 293T cell, and COS-7 cell.
51. (Previously presented). A host cell according to claim 48, wherein the host cell is a melanophore cell.

52. (Previously presented). A process for making a recombinant host cell comprising the steps of:

(a) transfecting an expression vector according to claim 47 into a suitable host cell; and

(b) culturing the host cell under conditions which allow expression of a G protein-coupled receptor from the expression vector.

53. (Previously presented). A process according to claim 52, wherein the host cell is mammalian.

54. (Previously presented) A process according to claim 53, wherein the mammalian host cell is selected from the group consisting of 293 cell, 293T cell, and COS-7 cell.

55. (Previously presented). A process according to claim 52, wherein the host cell is a melanophore cell.

56. (Previously presented). An isolated membrane of a recombinant host cell according to claim 52, wherein the isolated membrane comprises the G protein-coupled receptor.

57. (New) An isolated polynucleotide according to claim 44, wherein human cDNA is human brain cDNA.

58. (New) An isolated polynucleotide according to claim 44, wherein the PCR comprises:

- a) a first step having a duration of 2 minutes carried out at 95°C;
- b) a second step having a duration of 20 seconds carried out at 95°C;
- c) a third step having a duration of 20 seconds carried out at 60°C;
- d) a fourth step having a duration of 1 minute 30 seconds carried out at 72°C; and
- e) a fifth step having a duration of 5 minutes carried out at 72°C;

wherein steps two to four are repeated 45 times.

59. (New) An isolated polynucleotide according to claim 44, wherein the nucleic acid sequence is SEQ ID NO:15.

60. (New) An isolated polynucleotide according to claim 44, wherein the endogenous G protein-coupled receptor is expressed in thalamus.

61. (New) An isolated polynucleotide according to claim 44, wherein the endogenous G protein-coupled receptor increases a level of intracellular IP3.